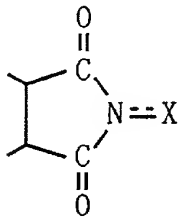
WHAT IS CLAIMED IS:

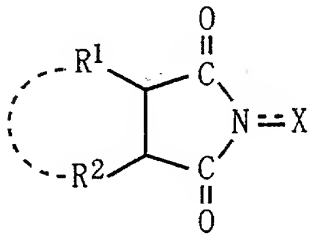
1. A catalyst comprising a cyclic imide compound, the cyclic imide compound having an N-substituted cyclic imide skeleton represented by following Formula (I):



(I)

wherein X is an oxygen atom or a hydroxyl group, and having a solubility parameter of less than or equal to 26 $(MPa)^{1/2}$ as determined by Fedors method.

2. The catalyst according to claim 1, wherein the cyclic imide compound is a compound represented by following Formula (1):

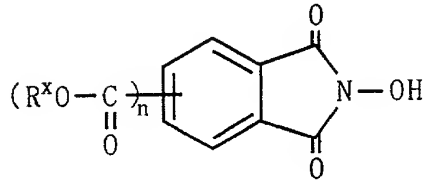


(1)

wherein R^1 and R^2 are the same or different and are each a hydrogen atom, a halogen atom, an alkyl group, an aryl group, a cycloalkyl group, a hydroxyl group, an alkoxy group, a

carboxyl group, a substituted oxycarbonyl group, an acyl group or an acyloxy group, where R^1 and R^2 may be combined to form a double bond or an aromatic or non-aromatic ring; one or two of N-substituted cyclic imido group indicated in Formula (1) may be further formed on R^1, R^2, or on the double bond or aromatic or non-aromatic ring formed by R^1 and R^2; and X is an oxygen atom or a hydroxyl group.

3. A catalyst comprising a cyclic imide compound represented by following Formula (II):



(II)

wherein R^x is a hydrocarbon group having five or more carbon atoms; and n denotes an integer of from 1 to 4, where the groups $-C(=O)-OR^x$ may be the same or different when n is equal to or more than 2.

4. The catalyst according to any one of claims 1 to 3, further comprising a metallic compound.

5. A process for producing an organic compound, the process comprising the step of:

allowing (A) a compound capable of forming a radical to

react with (B) a radical scavenging compound in the presence of the catalyst as claimed in any one of claims 1 to 4 to thereby yield a product of an addition or substitution reaction between the compound (A) and the compound (B) or a derivative thereof.

6. The process according to claim 5, wherein the compound (A) capable of forming a radical is one selected from the group consisting of (A1) heteroatom-containing compounds each having a carbon-hydrogen bond at the adjacent position to the heteroatom, (A2) compounds each having a carbon-heteroatom double bond, (A3) compounds each having a methine carbon atom, (A4) compounds each having a carbon-hydrogen bond at the adjacent position to an unsaturated bond, (A5) non-aromatic cyclic hydrocarbons, (A6) conjugated compounds, (A7) amines, (A8) aromatic compounds, (A9) straight-chain alkanes and (A10) olefins.

7. The process according to claim 5, wherein the radical scavenging compound (B) is one selected from the group consisting of (B1) unsaturated compounds, (B2) compounds each having a methine carbon atom, (B3) heteroatom-containing compounds and (B4) oxygen-atom-containing reacting agents.

8. The process according to claim 7, wherein the

oxygen-atom-containing reacting agents (B4) are at least one selected from the group consisting of oxygen, carbon monoxide, nitrogen oxides, sulfur oxides, and nitric acid, nitrous acid or salts thereof.

9. The process according to claim 5, wherein the reaction between the compound (A) capable of forming a radical and the radical scavenging compound (B) is one selected from the group consisting of oxidation reactions, carboxylation reactions, nitration reactions, sulfonation reactions, coupling reactions and combinations thereof.